SOAH DOCKET NO. 582-10-4184
TCEQ DOCKET NO2005-1490-WR

CONCERNING THE APPLICATION	**§**	**BEFORE THE**
BY THE BRAZOS RIVER	**§**	
AUTHORITY FOR WATER USE	**§**	**TEXAS COMMISSION ON**
PERMIT NO. 5851 AND RELATED	**§**	
FILINGS	**§**	**ENVIRONMENTAL QUALITY**

THE DOW CHEMICAL COMPANY'S EXCEPTIONS TO THE PROPOSAL FOR DECISION

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CONCERNING THE APPLICATION BY THE BRAZOS RIVER AUTHORITY FOR WATER USE PERMIT NO. 5851 AND RELATED FILINGS	**§**	**BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

THE DOW CHEMICAL COMPANY'S EXCEPTIONS TO THE PROPOSAL FOR DECISION

TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

COMES NOW The Dow Chemical Company ("Dow"), and files these Exceptions to the Administrative Law Judges' ("ALJs") Proposal for Decision ("PFD")[1] with the Texas Commission on Environmental Quality ("TCEQ" or "Commission") regarding the above-referenced application ("Application") and associated Water Management Plan ("WMP") and Technical Report and Appendices ("Technical Report") by Brazos River Authority ("BRA" or "Applicant") for Water Use Permit No. 5851 (the "SysOps Permit"). For clarity and organizational purposes, Dow has separated its Exceptions and related arguments into sections corresponding to the outline put forth by the ALJs in the PFD. Accordingly, Dow's Exceptions to the ALJs' PFD are as follows:

I. INTRODUCTION

Dow has no exceptions to the ALJs' "Introduction" section of the PFD.

II. PARTIES

Dow has no exceptions to the ALJs' "Parties" section of the PFD.

[1] As detailed by the ALJs, there have been two proposals for decision issued by the ALJs associated with

III. PROCEDURAL HISTORY

Dow has no exceptions to the ALJs' "Procedural History" section of the PFD.

IV. BRA'S CURRENT WATER RIGHTS

Dow has no exceptions to the ALJs' "BRA's Current Water Rights" section of the PFD.

V. APPLICATION AND WMP DETAILS

Dow has no exceptions to the ALJs' "Application and WMP Details" section of the PFD.

VI. DRAFT PERMIT AND OTHER PROPOSED PERMITS

Dow has no exceptions to the ALJs' "Draft Permit and other Proposed Permits" section of the PFD.

VII. OVERVIEW OF WATER RIGHT PERMITTING LAW

Dow has no exceptions to the ALJs' "Overview of Water Right Permitting Law" section of the PFD.

VII. JURISDICTION

Dow has no exceptions to the ALJs' "Jurisdiction" section of the PFD.

IX. MR. WARE'S IMPARIMENT CLAIMS

Dow has no exceptions to the ALJs' "Mr. Ware's Impairment Claims" section of the PFD.

X. GENERAL REQUIREMENTS OF TEXAS WATER CODE CHAPTER 11 AND TCEQ RULES

A. Background

In the PFD, the ALJs provided background to the requirements contained in Chapter 11 of the Texas Water Code, the TCEQ rules, and arguments made by the parties regarding those requirements. The ALJs state, "BRA claims that it has complied with all of these requirements to the extent that they apply to its Application."[2] Dow objects to this characterization of BRA's argument on these issues. In its reply to closing arguments, BRA stated as follows:

> Dow, LGC, and FBR complain that BRA's WMP does not satisfy the requirements of TCEQ's rules for water rights applications, specifically 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7. In so arguing, Dow, FBR, and LGC assume that the requirements of these rules are mandatory. BRA disagrees. These rules are intended to provide TCEQ staff (and that of its many predecessor agencies) the information needed to process a water right application. As such, they should be considered directory, not mandatory.[3]

BRA did not claim "that it has complied with all of these requirements to the extent that they apply to its Application." On the contrary, BRA claims that the TCEQ rules themselves, even those that apply directly to the Application, are directory rather than mandatory. Consequently, BRA argues it should not be punished for failing to comply

[2] PFD at 22.
[3] BRA's Reply to Closing Arguments at 9.

with even the applicable provisions in those rules. BRA contends that the rules are just guidelines so the TCEQ staff has enough information to process the Application.

This is a completely different logical train, one that is often boarded only when an applicant is left without any arguments other than to concede that its application needs to be denied. Not being able to allege that its Application meets 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7, which are applicable to its permit, BRA is making the only potential argument left – that its failure to meet the applicable rules should not result in a dismissal of its failed permit application. BRA contends that the rules for this permit should be considered only guidelines so that the aspects of BRA's Application that fail to meet the promulgated regulations can be excused and its permit not rejected for failure to meet the promulgated regulations. If TCEQ desired these regulations to be directory, they could have indicated that in the regulations or in guidance that TCEQ has been free to adopt at any point. This would put all permit applicants on an equal footing. BRA is instead asking for the TCEQ to informally rewrite the applicability of its regulations to save BRA's facially flawed Application by retroactively reclassifying the TCEQ regulatory requirements as directory.

One can wonder about the adverse impact on voluntary regulatory compliance in Texas or the potential for additional contested cases that might result if others take BRA's track and argue that a regulation they do not satisfy is merely directory and does not need to be met. It seems that the Executive Director ("ED") does not share this concern, or at least has not raised it in this proceeding.

For example, one of the most basic rules BRA failed to comply with was to "state the location of point(s) of diversion … with reference to a corner of an original land

survey point of record, giving both course and distance."[4] Even assuming BRA's "reach" process complies with Texas law, allowing it to essentially divide the entire Brazos River Basin into diversion reaches rather than provide specific points of diversion for its Application, BRA failed to specify the information required by the TCEQ rule for those reaches. During the second evidentiary hearing, BRA repeatedly compared its Application to Dow's recently issued Certificate of Adjudication No. 12-5328C,[5] which authorized a 3.5-mile diversion segment on the Brazos River for the purpose of diverting water into Harris Reservoir. Unlike BRA, Dow provided the necessary survey information, including course and distance, mandated by 30 Tex. Admin. Code § 295.7 for both the upstream limit and downstream limit of the diversion segment in Certificate of Adjudication No. 12-5328C.[6] BRA failed to even meet the requirements of the example they cited. BRA has no reason other than lack of effort not to have provided the latitude and longitude coordinates and survey information associated with the beginning and end of each of its diversion reaches, but unlike Dow, it chose not to do so. So the question is not whether the provisions of this rule are applicable to BRA's Application; it is whether the rule itself is mandatory.

The ALJs give BRA's Application a great deal of latitude with regard to compliance because of the complexity of BRA's Application and its potential to meet some of the state's future water needs in this region. "[The provisions in §§ 295.5-.7 envision] a level of specificity that might be hard to achieve with respect to any water right application (such as the SysOp Permit) that is intended to satisfy myriad future

[4] 30 Tex. Admin. Code § 295.7.
[5] BRA's Closing Argument at 12.
[6] BRA Exhibit 141 at 2 (in Paragraph No. 1, "DIVERSION," subsection A provides the required survey details for the upstream limit of the diversion segment, and subsection B provides the information for the downstream limit).

water needs over an extended time period."[7] "[T]here appears to be tension between the rules, which require highly detailed specifics in a water right application, and the clear legislative desire for water projects that can meet projected needs over the long haul."[8] The complexity and breadth of BRA's Application should require stricter compliance with TCEQ's rules and regulations rather than less. Potentially, the SysOps Permit affects existing water rights, future surface water projects and applicants, and environmental ecosystems in virtually every part of the Brazos River Basin. The ALJs' inclination to favor increased flexibility in lieu of strict compliance will only create more situations where these issues – and the parties associated with them – are negatively affected.

Moreover, the assumption that the tension is due to the conflict between the rules and "water projects that can meet projected needs over the long haul" is not accurate. While this water project does meet projected needs over the long haul, the conflict is due to BRA's drafting decisions. Many of these BRA drafting decisions are not required for "water projects that can meet projected needs over the long haul," but are due to BRA's desire to appropriate as much water from the Brazos River as possible, or because BRA simply chose to not comply with the rules. The TCEQ should hold BRA to the requirements of the regulations and have BRA re-draft their permit application to meet the regulations – this is largely what the TCEQ Commissioners asked BRA to do in the remand. Rather than reduce its overreach, BRA doubled down, betting that they would be allowed to ignore the regulations that they could have met with different drafting decisions.

[7] PFD at 24.
[8] *Id*.

B. The Requirements of 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7 Are Mandatory

In the PFD, "the ALJs conclude that 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7 are directory, rather than mandatory."[9] The ALJs' reasoned, "that the rules need not be complied with perfectly, so long as they are complied with sufficiently to provide the ED with the information he needs to adequately analyze the application."[10] The ALJs admit, "for the first time, BRA argued in its Second Reply Brief that the requirements of 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7 are directory, rather than mandatory." In other words, BRA waited until the last minute in its reply to closing arguments to make this directory versus mandatory argument. Thus, BRA gave other parties no chance to respond before the PFD was released. Dow takes exception to this argument that the TCEQ rules in these sections are directory rather than mandatory. Dow asserts that BRA's argument misinterprets Texas law on this issue and ignores the plain language and purpose of TCEQ rules.

Most of BRA's arguments that were relied on by the ALJs in the PFD center around the discussion in *Lewis v. Jacksonville Bldg. & Loan Ass'n*.[11] In *Lewis*, the Texas Supreme Court held that Rule 1.9 of the Rules and Regulations for Savings and Loan Associations, requiring that, "[t]he Commissioner Shall render his decision within forty-five (45) calendar days after the date the hearing is finally closed,"[12] was "directory, and the failure of the Commissioner to render a decision within that time period will not, of itself, invalidate the Commissioner's order."[13] In that case, the Texas Supreme Court

[9] PFD at 28.
[10] *Id*.
[11] 540 S.W.2d 307 (Tex. 1974).
[12] *Id*. at 309.
[13] *Id*. at 311.

provided a detailed summary analyzing its process to determine whether an agency rule was mandatory or directory:

> The question is one of construction of the administrative rule. Valid rules and regulations promulgated by an administrative agency acting within its statutory authority have the force and effect of legislation. Administrative rules are ordinarily construed like statutes.
>
> There is no absolute test by which it may be determined whether an administrative rule or regulation is mandatory or directory. The prime object is to ascertain and give effect to the intent of the rule or regulation. Although the word "shall" is generally construed to be mandatory, it may be and frequently is held to be directory. In determining whether the administrative agency intended the provision to be mandatory or directory, consideration should be given to the entire rule, its nature, objects and the consequences which would result from construing it each way. Provisions which do not go to the essence of the act to be performed but which are for the purpose of promoting the proper, orderly, and prompt conduct of business, are not ordinarily regarded as mandatory. If the provision directed doing of a thing in a certain time without any negative words restraining it afterwards, the provision as to time is usually directory.[14]

These statements form no bright line rule, but it is clear that the word "shall" generally indicates the rule is mandatory. Provisions that go to "essence of the act" are mandatory. There are exceptions to the general rule that "shall" means mandatory. A rule is directory when it is only "for the purpose of promoting the proper, orderly, and prompt conduct of business." If the rule only involves the "doing of a thing in a certain time without any negative words restraining it afterwards," it is "usually directory."

This last part of the test (conveniently left out of BRA's argument) was the backbone of the ruling in *Lewis*. The Supreme Court determined the rule in *Lewis* was directory because it solely involved performing an action by a certain time, without any negative words restraining it afterwards. The *Lewis* court reasoned as follows:

> Rule 1.9 does not provide, either expressly or by implication, that the Commissioner's order filed more than 45 days after the hearing is finally

[14] *Id*. at 310 (internal citations omitted).

> closed, becomes voidable on appeal. The rule contains no word restricting the action of the Commissioner after the expiration of 45 days after the close of the hearing. No legal consequences are spelled out for the failure of the Commissioner to render his decision within the specified time.
>
> The purpose of the rule is to promote prompt and orderly consideration and action by the Savings and Loan Commissioner. It is not intended to fix a time upon the power of the commission to render decisions after expiration of the 45 days mentioned, or to invalidate a tardy decision. We, therefore, hold the 45 day provision of the Rule 1.9 is directory …[15]

Like *Lewis*, the other cases BRA cites[16] involve situations where a rule provides that a certain timeline must or shall be met. The time frame was not followed in these cases, but the courts determined that the time restriction had no legal consequences and therefore was only directory. *Tex. Dep't of Pub. Safety v. Guerra*[17] involved a requirement that a suspension hearing be held within 40 days of notice of the suspension, and the court held it was directory, not mandatory. *Tex. Dep't of Pub. Safety v. Pierce*[18] involved a statute that required a judge to grant a continuance on the request of a party when the party receives a discovery document fewer than 7 days before a hearing, and the court held it was directory because it did not include a sanction for non-compliance. *Helena Chem. Co. v. Wilkins* [19] dealt with farmers' delays in submitting claims against a seed seller as required by the Seed Arbitration Act, and the court held that submission of the claims was a mandatory act but "timeliness is merely a factor the trial court may consider."[20] In *Chisolm v. Bewley Mills*,[21] the Texas Supreme Court held a 30-day provision in the Texas Probate Code requiring a certified copy of a judgment to be filed within that timeframe was only directory, meaning the claim was not barred for failing to file it with the county

[15] *Id*. at 311.
[16] *See* BRA's Reply to Closing Arguments at 9-12.
[17] 970 S.W.2d 645 (Tex. App.—Austin 1998, pet. denied).
[18] 238 S.W.3d 832 (Tex. App.—El Paso, 2007, no pet. h.).
[19] 47 S.W.3d 486 (Tex. 2001).
[20] *Id*. at 10.
[21] 246 S.W.3d 188 (Tex. App.—Dallas 2007, pet. denied).

clerk within that time. None of these cases involving an unsatisfied timeline are comparable to BRA's situation, where it has failed to provide information that was explicitly required by the TCEQ rules. BRA did not merely fail to submit the information within a timeframe mandated by the rules; BRA failed to provide the required information at all.

Notably related to this distinction, the *Lewis* court distinguished its holding from an earlier Texas Supreme Court decision[22] that had been relied on by the Court of Appeals, *Bay City Federal Savings & Loan Association v. Lewis*.[23] In *Bay City*, the Texas Supreme Court held that the Savings & Loan Commissioner's order was invalid where the Commissioner failed to set forth precise and explicit statements of underlying facts supporting the findings when the statutory language stated the order "shall include Findings of fact and conclusions of law, separately stated, on all issues material to the decision reached."[24] The Texas Supreme Court in *Bay City* reasoned that this requirement was mandatory, in part, because it is needed to "inform protestants of the facts found so that they may intelligently prepare and present an appeal to the courts."[25]

Analyzing this case using the test summarized in *Lewis*, it is clear that BRA's failure to comply with Sections 295.5, 295.6, and 295.7 is similar to the situation in *Bay City* and not *Lewis*. As the ALJs correctly point out, "§§ 295.5, 295.6, and 295.7 all use the word 'shall,' which suggests that they are mandatory requirements."[26] The *Lewis* test then requires one to look at the provisions to see if they go to the "essence of the act to be performed."

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[22] *Lewis*, 540 S.W.2d at 310.
[23] 474 S.W.2d 459 (Tex. 1971).
[24] *Id*. at 461-462.
[25] *Id*. at 462 (citing *Miller v. R.R. Comm'n*, 363 S.W.2d 244 (Tex. Sup. 1962).
[26] PFD at 26.

The ALJs somehow followed BRA's flawed reasoning and determined "that the provisions in Chapter 295 are not the essence of the act to be done, but are for the purpose of promoting the 'proper, orderly, and prompt conduct of business' and, therefore, are not mandatory."[27] The "act to be performed," in this case, is obviously for an applicant to submit a complete water rights application to the TCEQ. Dow cannot imagine anything more essential, more paramount to the "essence" of that act, than providing specific information regarding how much water is to be used, the location where the water is to be diverted, and the rate at which the water will be diverted under the water right. Those are exactly the requirements that are mandated by 295.5, 295.6, and 295.7, respectively. In fact, Dow would challenge BRA and the ALJs to name three other rules that go more to the "essence" of a water right or obtaining a water right than being provided the information required by 295.5, 295.6, and 295.7. When one asks details about a water right, those are usually the first three pieces of information that are used to define and describe it.

The ALJs state that, "it seems apparent that §§ 295.5, 295.6, and 295.7 were rules adopted by TCEQ to help a water right applicant provide the TCEQ with the kinds of information that would enable the ED to evaluate the application and make determinations on the substantive questions, thereby suggesting that the rules are directory."[28] This does not "seem apparent" to Dow. The requirements in Section 295.5, 295.6, and 295.7 do much more than simply "provide TCEQ staff (and that of its many predecessor agencies) the information needed to process a water right application,"[29] as BRA claimed. The information in these sections does not only provide the TCEQ staff

[27] *Id*.
[28] PFD at 27.
[29] BRA's Reply to Closing Arguments at 9.

with information, it also: (1) allows the TCEQ to provide accurate notice to third parties including the specifics of the application, (2) provides third parties with information necessary to determine whether they want to protest the application, and (3) provides protestants with specifics and facts regarding the application so that they can intelligently prepare and present their case in opposition during the contested case and possibly on appeal.

Unsurprisingly, BRA's failure to provide the information required in Sections 295.5, 295.6, and 295.7 has been a problem in this case since the proceedings began. Due to BRA's decision to fail to comply with the requirements of Chapter 295, the protestants have repeatedly argued that they do not know exactly how much water BRA is ultimately requesting to divert or where the diversions will be located. FBR filed a Motion for Summary Disposition because "BRA did not identify when, where or how the vast majority of the water will actually be diverted."[30] Dow filed a Motion for Summary Disposition just before the evidentiary hearing on the WMP because "the WMP does not specify an amount of water to be appropriated,"[31] and "there is no mention in the WMP about which, if any, of the many models should be used to derive the new appropriation amount for Draft Permit No. 5851."[32] LGC filed a reply to Dow's motion just before the evidentiary hearing, stating that, "it is no longer even clear what represented appropriation amount will be at issue in the hearing,"[33] and that "BRA has essentially suggested that the protesting parties should come to the contested case hearing without

[30] FBR's Motion for Summary Disposition for Denial of BRA's Application for a SysOp Permit at 3.
[31] Dow's Motion for Summary Disposition and Motion to Exclude the Testimony of Thomas C. Gooch at 7.
[32] *Id*. at 10.
[33] LGC's Reply in Support of the Motion for Summary Disposition Filed by Dow Chemical Company at 4.

any clear idea of the appropriation amount at issue."[34] BRA, both before and during the evidentiary hearing, submitted different draft permits with differing appropriation amounts. This prompted both Dow and the ED to have to file supplemental prefiled testimony to respond to this moving target regarding the essential elements of the water right being sought. All of this information would have been finalized before the hearing if BRA had been forced to conform to the specific requirements of §§ 295.5, 295.6, and 295.7. These problems illustrate that this case is much more applicable to *Bay City* than to *Lewis*. The Texas Supreme Court in *Bay City* held that the requirements in that case were mandatory because they were needed to "inform protestants of the facts found so that they may intelligently prepare and present an appeal to the courts."[35] The requirements in this case should be held to be mandatory for the same reason.

The ALJs place a considerable amount of weight into BRA's argument that the rules in Chapter 295 are directory because they are titled "Water Rights, Procedural," and the rules in Chapter 297 are mandatory because they are titled "Water Rights, Substantive." Just because rules are located within a chapter titled "procedural" does not mean they are all drafted only to promote the "proper, orderly, and prompt conduct of business" as BRA and the ALJs suggest. If Dow adopted the ALJ's position and applied it to the entire Chapter 295, Dow could argue under the rules in Chapter 295 that state that Dow "must" or "shall" pay one of the required fees in Subchapter B, it could elect to argue that this whole chapter is just "directory" so the fees do not have to be paid. Dow doubts that it will make this argument nor that such an argument, if made, would be successful. The argument should be equally unsuccessful in the current case.

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[34] *Id*.

[35] *Bay City Federal Savings & Loan Association*, 474 S.W.2d at 462 (citing *Miller v. R.R. Comm'n*, 363 S.W.2d 244 (Tex. Sup. 1962).

Even if one follows BRA's and the ALJs' reasoning that Chapter 297 contains the mandatory "substantive requirements" and Chapter 295 contains only "procedural requirements" that can be construed as directory, the substantive provisions in Chapter 297 also require that BRA submit the information required by 295.5, 295.6, and 295.7. Specifically, Title 30, Section 297.41(a)(1) of the Texas Administrative Code explicitly states that, "the commission shall grant an application for a water right only if" "the application conforms to the requirements prescribed by Chapter 295 of this title (relating to Water Rights, Procedural) and is accompanied by the prescribed fee."[36] Therefore, the information required in Chapter 295 for, "Water Rights, Procedural," is also explicitly required in Chapter 297 to be issued a water right. The ALJs incorrectly state that, "the rules do not state any consequence for failure to include 'the amount of water to be used … in definite terms,' 'the location of points of diversion,' or the 'maximum rate of diversion.' The absence of any language imposing a consequence suggests that these provisions are directory, not mandatory."[37] However, the "consequence" of failing to provide the information required by Sections 295.5, 295.6, and 295.7 is explicitly stated in 30 Tex. Admin. Code § 297.41(a)(1): the application is not granted. Section 297.41 mandates that the TCEQ "shall grant" an application "only if" the application provides the information in Chapter 295; so if an applicant fails to provide that information, the consequence is that their application is not granted. That should be the result here.

The *Lewis* test requires one to determine whether the administrative agency intended the provision to be mandatory or directory. The answer to this question is also provided by other sections of the Texas Administrative Code. It is clear that the TCEQ

[36] 30 Tex. Admin. Code 297.41(a)(1).
[37] PFD at 26-27.

intended for the provisions in Sections 295.5, 295.6, and 295.7 to be mandatory. Section 295.1, dealing with "Use of Forms," states that "the use of such forms [for preparing a water rights application] is not mandatory, *but the information required by such forms must be provided in any event.*"[38] If one reviews the TCEQ's form for an "Application for Permit to Appropriate State Water," Form TCEQ-10214, it is clear that the form requires the applicant to provide total amount of water needed in acre-feet per year (subsection 3.A), the location of the diversion point(s) with latitude and longitude coordinates and survey information (subsection 3.C.2), and the rate of diversion (subsection 3.C.6).[39] So not only is this information explicitly required in §§ 295.5, 295.6, and 295.7, but the TCEQ drafted forms that require the same information. The TCEQ drafted a separate rule that allows an applicant the freedom not use the use the form, but the rule also *mandates* that the applicant still provide the information requested in the form in any event.

The TCEQ could not have been more apparent; the requirements of Sections 295.5, 295.6, and 295.7 were intended to be mandatory. The language states that an applicant "shall" provide this information, which indicates it is mandatory. The TCEQ drafted a form that also requests the information in Sections 295.5, 295.6, and 295.7. The TCEQ has a separate rule regarding the use of forms allowing the applicant to refrain from using the sample form, but the rule also mandates the applicant provide this information. In addition, the TCEQ drafted a separate rule in Chapter 297, a "substantive" rule, that allows a water rights application to be granted "only if" said information is provided, meaning the "consequence" of not submitting this information is denial of the application. Ultimately, one must conclude that the word "shall" does mean the

[38] 30 Tex. Admin. Code § 295.1 (emphasis added).
[39] *See* https://www.tceq.texas.gov/assets/public/permitting/forms/10214.pdf (Instructions and TCEQ Form TCEQ-10214) at 9-10.

requirements in these rules are mandatory in this case, and the consequence stated in Section 297.41(a)(1) for not complying with Chapter 295 should be the result here—the application should be denied.

C. The Application Does Not Identify the Total Amount of Water to be Used Sufficiently to Satisfy 30 Texas Administrative Code § 295.5

In the PFD, "[t]he ALJs conclude that the application complies with the directory provisions of § 295.5. Although the application is complex and, at times, confusing, the four Demand Levels clearly state a 'total amount of water to be used … in definite terms."[40] Dow objects to the conclusions by the ALJs regarding compliance with Section 295.5 for several reasons. The full text of the TCEQ rule is as follows:

> The total amount of water to be used shall be stated in definite terms, *i.e., a definite number of acre-feet annually* or, in the case of a seasonal, emergency, or temporary water right application, over the period for which application is made. The purpose or purposes of each use shall be stated in definite terms. If the water is to be used for more than one purpose, the specific amount to be used annually for each purpose shall be clearly set forth. If the application requests authorization to use water for multiple purposes, the application shall expressly state an annual amount of water to be used for the multiple purposes as well as for each purpose of use. If the amount to be consumptively used is less than the amount to be diverted, both the amount to be diverted and the amount to be consumptively used shall be specified.[41]

The ALJs state, "there is nothing in the text of § 295.5 to suggest that a water right may not have different appropriation levels based upon different circumstances."[42] Dow contends the plain language of the rule indicates the exact opposite. The rule states that the amount of water to be used "shall be stated" as "a definite number of acre-feet annually." Dow interprets that as limiting the amount of water to be used to one specific

[40] PFD at 33.
[41] 30 Tex. Admin. Code § 295.5 (emphasis added).
[42] *Id*. at 34.

number, not a group of numbers under several different scenarios as BRA has proposed. Even giving the ALJs the benefit of the doubt, interpreting the rule as not explicitly prohibiting having different appropriation levels based on different circumstances, there is certainly nothing in the rule that affirmatively authorizes it. BRA, the ED, and the ALJs also cannot reference even one example where this rule has been interpreted to authorize multiple scenarios or "different numbers of acre-feet annually" in the past. At best, the rule is silent as to whether a water right can be proposed with different scenarios, and there are no prior applications indicating that TCEQ has allowed this in the past. At worst, the rule explicitly prohibits what BRA is doing. Neither scenario is sufficient justification to allow BRA to do this in this case.

"The ALJs concede that, by using multiple demand scenarios (including some which have not yet come to pass), BRA is 'locking up' water that might otherwise be available for appropriation by others."[43] However, the ALJs state that, "[t]his is not, however, an improper thing to do." But Dow concedes that it is not only improper, it is illegal. Water that is "locked up" cannot be beneficially used,[44] as is required by the Texas Water Code. Locking up water also blocks future applicants and water projects from utilizing the state's surface water, essentially wasting these resources. The ALJs' position allows BRA to lock up hundreds of thousands of acre-feet of water on the "chance" that a scenario might occur in the future. The ALJs state that there is "nothing inappropriate about BRA seeking a permit that accounts for two large contingencies that have a reasonable probability of impacting it in the foreseeable future."[45] Dow

[43] PFD at 34.
[44] *See* Tex. Water Code § 11.134(b)(3)(A) ("The commission shall grant the application only if the proposed appropriation "is intended for a beneficial use.").
[45] PFD at 34.

understands that appropriations are sometimes sought for extreme long-term planning. However, BRA could obtain an appropriation for whatever demand scenario it deems most likely to occur in the foreseeable long-term at this time while following the law, and if these contingencies change in the future, it can apply for an amendment to its water right.

D. The Application Does Not Adequately Identify Maximum Rates of Diversion as Required by 30 Texas Administrative Code § 295.6

Title 30, Section 295.6 of the Texas Administrative Code states that "[i]f the applicant proposes to divert from a stream or reservoir, the maximum rate of diversion in gallons per minute or cubic feet per second shall be stated."[46] As stated above, contrary to BRA's argument, this is a mandatory, not discretionary, requirement in the TCEQ rules. The ALJs determined in the PFD that "BRA's use[] of aggregated maximum diversion rates by segment is sufficient to enable the water availability modeling to evaluate the application," and therefore "the obvious objective of § 295.6 has been achieved."[47] Dow disagrees that the "obvious objective" of Section 295.6 is to sufficiently allow the proposed application to be modeled. The WAMs are configured on a monthly time-step, so instantaneous diversion rates are not even taken into account for the modeling of the proposed appropriation. Section 295.6 requires diversion rates to be stated so the permit can be properly enforced during actual operations after water rights are granted. BRA's presentation of maximum diversion rates aggregated for BRA's diversions within specified diversion reaches in the WMP "does not provide the information necessary to

[46] 30 Tex. Admin. Code § 295.6.
[47] PFD at 38.

monitor BRA's individual diversions during actual operations, which could translate to adverse impacts on other water rights within the stream reaches."[48]

The ALJs also "do not believe it is necessary to add the maximum diversion rates directly into the text of the proposed permit because the WMP will be expressly incorporated into and attached to the permit."[49] This is another situation where BRA is being allowed to deviate from prior TCEQ practice – to the detriment of other water right holders – for no apparent reason. "This is the information that is normally included in a new water right permit."[50] The maximum diversion rates need to be stipulated in the permit itself for other water right holders and to aid the new watermaster. The rates should not be left to obscurity in a table within the hundreds of pages of the WMP, Technical Report, and Appendices. Neither BRA nor the ALJs provide a reason to deviate from the norm in this case. The ALJs only state that, "this is not a problem that is unique to the issue of maximum diversion rates," and other "critical details of how the SysOp Permit will be utilized" can only be found in the WMP.[51] However, as stated above, diversion rates are essential aspects of a water right, and are explicitly required to be disclosed by rule. It makes sense to include this information in the permit itself, so all parties understand how BRA is authorized to perform during its actual operations in the future.

E. The Application Does Not Adequately Identify Points of Diversion as Required by 30 Texas Administrative Code § 295.7

[48] Exhibit Dow-47 at P. 22, Lns. 1 – 5.
[49] PFD at 38.
[50] Exhibit Dow-57 at P. 24, Lns. 3 – 4.
[51] PFD at 38 – 39.

The ALJs reversed their holding on the issue of whether BRA's Application complies with the requirements of Section 295.7. At the conclusion of the first evidentiary hearing, the ALJs determined that, "[b]y failing to identify real, specific diversion points in the application, BRA has failed to comply with the clear requirement of 30 TAC § 295.7."[52] However, after the second evidentiary hearing, the ALJs "conclude[d] that BRA has met its burden to substantially comply with § 295.7."[53]

The ALJs recent ruling implies BRA's Application *substantially* complies with Section 295.7, which reads as follows:

> The application shall state the location of point(s) of diversion and, if applicable, the location of dam(s) or off-channel storage reservoir(s). These locations shall also be shown on the application maps with reference to a corner of an original land survey and/or other survey point of record, giving both course and distance. The distance and direction from the nearest county seat or town shall also be stated.[54]

BRA's Application does not comply with the requirements of this rule, even after taking into account the new information BRA provided in the WMP and Technical Report. BRA did not state the exact locations of its points of diversion; instead, it modeled its SysOps Permit by dividing 1,200-plus miles of the Brazos River basin into 40 diversion reaches.[55] The actual diversion points will not be provided until after the permit is granted, and BRA plans to add diversion points anywhere within those 40 diversion reaches in the future without notice and a hearing. BRA's procedure neither follows the requirements nor the intent of the rule, which is to identify the specific location(s) where the water will be diverted before the permit is granted. The plain language of Section

[52] ALJs' Proposal for Decision Issued after the First Hearing on the Merits at 29.
[53] PFD at 48.
[54] 30 Tex. Admin. Code § 295.7.
[55] BRA Exhibit 113, WMP at 20 – 21 (Table 5.1).

295.7 also mandates that BRA provide survey information to identify the locations of its diversions. Even assuming the utilization of diversion reaches is allowed in this way and on this type of scale, BRA has failed to provide this required information to properly identify the locations of these reaches.

Despite the ALJs' ultimate determination that BRA *substantially* complied with the rule, the ALJs intimate that BRA has failed to satisfy the strict requirements of Section 295.7, or failed to provide a level of specificity that the TCEQ has required of water right applicants in the past. The ALJs admit the following:

> It is true that, in some respects, the Application in the Second Hearing is similar to the one in the First Hearing: BRA still seeks surprisingly wide latitude to make diversions from anywhere along over 1,200 miles of the Brazos River and it tributaries, and BRA still relies, at least partially, on hypothetical diversion points for its modeling purposes. The ALJs further agree that there is an air of artificiality to BRA's exercise of dividing the Brazos River Basin into 40 reaches...[and] the ALJs caution that the use of reaches contemplated in the SysOp Permit goes far beyond anything previously authorized by the TCEQ.[56]

Despite these deficiencies, many of which run congruent to arguments the ALJs used to recommend denial after the first evidentiary hearing, the ALJs somehow conclude that BRA has now met its burden with regard to § 295.7. The ALJs reversal seems to be based almost solely on BRA's (incorrect) argument that the requirements in Section 295.7 are directory and not mandatory. "The ALJs conclude that BRA has adequately complied with the *directory* requirements of § 295.7."[57] There is little doubt to Dow that if the ALJs used the same standard of review with regard to compliance with Section 295.7 as was used in the first Proposal for Decision, meaning the ALJs viewed Section 295.7 as a

[56] PFD at 47.
[57] PFD at 47 (emphasis added).

clear mandatory requirement rather than a *directory* requirement, the ALJs would have determined that BRA failed to comply with the rule's plain language.

As was discussed in more detail above, the requirements of § 295.7 are mandatory, and not directory, in nature. The rule explicitly states that the applicant "*shall* state the location of point(s) of diversion…with reference to a corner of an original land survey and/or other survey point of record, giving both course and distance." The word "shall" indicates the rule is mandatory. Following the test in *Lewis*, providing the location where water will be diverted goes directly to the "essence of the act to be performed" when applying for a new water right. "The point of diversion is an essential element of the right to appropriate water from a given source of supply."[58] Failing to provide this information has a clearly stated consequence: a water rights application is to be granted "only if" this information is provided, as stated in Section 297.41(a)(1). In addition, Section 295.7 also does not involve a time frame that lacks a consequence, as did the other cases cited by BRA to support its position. The requirements of Section 295.7 associated with diversion point information are mandatory under Texas law, and BRA simply failed to comply with those requirements in both the first and second evidentiary hearings.

Another flaw with the ALJs' PFD regarding proper identification of diversion points is its support of BRA's proposed procedure for adding or changing diversion points after the permit is granted, which is based on a faulty interpretation of 30 Tex. Admin. Code § 297.102(b). BRA believes it can add a diversion point or points by simply

[58] Hutchins, Wells A., "The Texas Law of Water Rights," *Tex. Board of Water Engineers*, Austin, Texas (1961) at 235. This book was published by The State of Texas, Board of Water Engineers (predecessor agency to the TCEQ), as authorized by House Bill 4, Chapter 23, page 607, General and Special Laws of Texas, 1959, Fifty-Sixth Legislature, Third Called Session.

submitting a copy of a contract between BRA and a purchaser to the Executive Director of the TCEQ pursuant to 30 Tex. Admin. Code § 297.102(b).[59] However, Section 297.102(b) only allows a supplier to add or change a diversion point by filing a contract when the water is to be released from storage.[60] Section 297.102(b) is specific to delivery of stored water. It basically allows a water supplier to add an authorized downstream diversion point for a specific purpose: so stored water can be released and diverted downstream by a new purchaser without an amendment. However, BRA's SysOps Permit Application would authorize much more than releases and downstream diversions of stored water. It also authorizes appropriation of run-of-river flows in the Brazos River basin (stored water is only used to back up run-of-river flows to create a reliable supply). In fact, in many years, the amount of SysOps run-of-river diversions are far greater than the amount of SysOps reservoir releases, making the SysOps Permit more of a run-of-river water right than a water right authorizing stored water in those years.[61]

Therefore, Dow contends that when BRA adds a SysOps diversion point, it is not only adding a point where a downstream purchaser will be receiving BRA's stored water, it will also be adding a point where the state's run-of-river flows will be diverted. This requires both an evaluation under Section 297.102(b) AND Section 295.158(b) (Notice of Amendments to Water Rights) to determine whether notice and a hearing are required for the diversion point addition. 30 Tex. Admin. Code § 295.158(b) requires notice (and

[59] BRA Exhibit 119 at P. 14, Lns. 15-16 (Gooch prefiled testimony).
[60] 30 Tex. Admin. Code § 297.102(b); *see also* Tex. Water Code § 11.042(a) (authorizing supplying stored water under contract by using "the bank and bed of any flowing natural stream in the state to convey the water from the place of storage to the place of use or to the diversion point of the appropriator").
[61] *See* Exhibit Dow-56 (showing the amount of SysOps Run-of-River Diversions and SysOps Reservoir Releases in Scenario 12); *see also* BRA Exhibit 119 at P. 66, Lns. 20-22 (BRA's witness, Mr. Gooch, testified that "[i]mpoundments under the System Operation Permit will occur rarely, when storage has been emptied by diversions under the System Operation Permit.").

possibly a hearing) to add or change a diversion point for a normal run-of-river water right. The ALJs failed to address this issue in the PFD regarding the applicability of Sections 297.102(b) and 295.158(b) to BRA's SysOps Permit Application. The addition or change of a diversion point under the SysOps Permit should not automatically be a minor amendment to the WMP granted without notice and a hearing, as BRA suggests.

XI. THE WATER AVAILABILITY, DROUGHT OF RECORD AND IMPARIMENT OF EXISITING RIGHTS

D. The SysOp Permit Continues to Overstate the Amount of Water Available from BRA's Reservoirs because Storage Capacity in the Reservoirs has Been Lost to Sedimentation

Dow agrees with the ALJs' decision that only the existing storage capacities of BRA's reservoirs should be considered in determining water availability for Draft Permit No. 5851.[62,63] "The ALJs conclude[d] that the Commission should grant the Application in amended form, with the reductions in the appropriation amounts as indicated by the revised modeling utilized by Dow."[64]

The problem the ALJs and the Commission face, however, is that BRA ran no appropriation models for Draft Permit No. 5851 utilizing the actual storage capacity for existing BRA reservoirs. Dow calculated the reductions in the appropriation amounts due to overstated storage capacity, but it did not address all four of BRA's proposed demand

[62] Dow believes that the rationale for representing existing water rights authorizing storage in the WAM at the permitted storage volume is slightly different from that suggested by the ALJs on page 55. In the typical case these are third-party water rights and the conservative assumption is to assume that existing water rights will be used to full extent allowed by those water rights. In this case, the water rights at issue (associated with BRA's reservoirs) are held by the applicant of the new appropriation being quantified.

[63] Dow would also comment that there is not a risk that an existing water right holder's rights would be given away if less than the permitted storage was used in the WAM storage. The result would be that the new water right being evaluated in the WAM may be granted with an appropriation amount exceeding the amount actually available.

[64] PFD at 65.

scenarios. Dr. Brandes testified that "[t]he BRA undefined demand at the Rosharon gage had to be reduced by approximately 69,000 acre-feet per year, which represents about a 21-percent reduction in the total SysOps water supply of 324,814 acre-feet per year as presented in the WMP Technical Report for the Scenario 12 Firm Appropriation model."[65] Dr. Brandes also calculated the adjustment in the appropriation amount that is appropriate for Draft Permit No. 5851 for Scenario 9 (Demand Level C assuming BRA's approach to returns flows) in Exhibit Dow-59, which was attached to his supplemental prefiled testimony.[66] Dr. Brandes only addressed the appropriate reduction for Scenario 9 in his supplemental testimony because Scenario 9 was the appropriation amount BRA requested in its preferred version of the draft permit at the time of that testimony.

In the PFD, the ALJs propose to include an appropriation amount in Draft Permit No. 5851 for all four Demand Levels.[67] Coupled with the ALJs' holding on the storage issue, this requires reductions for all four demand scenarios — A, B, C and D. However, as the ALJs stated, "[n]o evidence was offered as to the size of the reduction in Demand Levels A and B."[68] The ALJs propose to estimate the appropriation amounts for Demand Levels A and B based the reductions (both approximately 14%) in appropriation Dr. Brandes determined for Demand Levels C and D.[69] It is Dow's belief that the ALJs recommend proportional reductions in the proposed appropriation amounts because the record is closed and the ALJs did not believe there would be the opportunity to rerun the SysOps models for all four demand scenarios taking into account the nonexistent storage

[65] Exhibit Dow-47 at P. 35, Lns. 3-7.
[66] *See* Exhibit Dow-57 at 5 (Dr. Brandes identifies and discusses the purpose of Exhibit Dow-59).
[67] *See* PFD at 34 ("The ALJs believe it would be preferable for the specific appropriation amount for each Demand Level to be explicitly stated in the permit.").
[68] PFD at 66.
[69] *See* PFD at 66 ("[T]he reductions in Demand Levels C and D both equate to 14% reductions. Therefore, the ALJs recommend that 14% reductions likewise be applied to the appropriation amounts in Demand Levels A and B.").

capacity. However, given the ALJs' ruling that the effect of the recently concluded new drought of record for Possum Kingdom Reservoir on Draft Permit No. 5851 needs to be ascertained with a corresponding adjustment made to the amount of the appropriation for Draft Permit No. 5851, the SysOps models will have to be rerun to recalculate the resulting appropriation amounts for all of the Demand Levels. Therefore, Dow believes that a better way to account for the loss of water available for appropriation due to nonexistent storage capacity in BRA's reservoirs would be to make the necessary storage adjustments to BRA's reservoirs as part of the SysOps model simulations that are to be made to re-evaluate the effects of the new drought of record. In these new SysOps model simulations, the storage adjustments to BRA's reservoirs to account for the nonexistent storage capacity would need to be made only for the second pass of the SysOps model.

Additionally, Dow would like to note another issue concerning the amount of storage capacity available for Draft Permit No. 5851. During the second evidentiary hearing, the storage issue dispute centered solely on the amount of storage capacity that has been lost due to sedimentation. However, after the close of the second evidentiary hearing, Dow filed a Motion to Take Official Notice that Possum Kingdom Reservoir had refilled, and BRA subsequently filed a response to that motion on July 6, 2015. In BRA's response, BRA admitted the following:

> BRA considers Possum Kingdom Lake full at elevation 999.0 feet above mean sea level (ft msl). While the top of the conservation pool is elevation 1000.0 ft msl, BRA has never operated the reservoir at this level. In fact, BRA records indicate the Lake has only reached elevation 1000.0 ft msl twice in its 75 year existence, and both times were during exceptional flood events. At elevation 1000.0 ft msl, water begins flowing over the top of any unopened flood gates on the dam and through the emergency spillway, potentially creating dam safety concerns. BRA maintains one foot of freeboard between elevations 999.0 and 1000.0 to

> allow time for opening flood gates during heavy rainfall events such as was experienced during the evening of May 26, 2015.[70]

Through these statements in its response, BRA admitted that the maximum operating level for Possum Kingdom Reservoir is at elevation 999 feet mean sea level, rather than at 1,000 feet mean sea level. However, to date, all water availability modeling in support of the SysOps Permit has been done based on the assumption that Possum Kingdom Reservoir can be filled to the maximum level of 1,000 feet mean sea level. BRA's WMP Technical Report also indicated to the other parties during the second evidentiary hearing that elevation 1,000 feet mean sea level is the full elevation for Possum Kingdom Reservoir,[71] yet now BRA has stated that the reservoir is only operated up to elevation 999 feet mean sea level.

The difference in the storage capacity of Possum Kingdom Reservoir between these two maximum water surface elevations is approximately 16,716 acre-feet.[72] Consequently, when the SysOps models are rerun to take into account the effect of the recent drought on the appropriation amounts for the SysOps Permit for the different demand levels, not only should the loss of storage capacity due to sedimentation in BRA reservoirs be accounted for in the analyses, but also the approximately 16,716 acre-feet of unused storage capacity at the top of Possum Kingdom Reservoir should be removed.

F. The Drought of Record

In the PFD, "the ALJs recommend: (1) the Commission issue the SysOp Permit now without a new drought of record-based reduction to the appropriation amounts;

[70] BRA's Response to The Dow Chemical Company's Motion to Take Official Notice at 1 – 2.
[71] BRA Exhibit 113, WMP Technical Report at 4-5 (Table 4.4).
[72] *See* Exhibit Dow-27 at p. 3 of 4 ("The results of the TWDB 2004-2005 Volumetric Survey indicate Possum Kingdom Lake…extends across 16,716 surface acres at [conservation pool elevation]."). Simply multiplying this surface acreage by the difference between the two elevations, one foot, provides an approximation of the unused storage capacity at the top of Possum Kingdom Reservoir of 16,716 acre-feet.

(2) the special provision recommended by the ED (whereby BRA is to study the effects of the new drought within nine months of issuance of the permit) should not be added to the WMP, but to the Permit itself (specifically as a new Special Condition C.7); and (3) an additional sentence should be added at the end of Special Condition C.7 specifying that, if the results of the BRA study indicate that a new drought of record has decreased the amount of water available for the SysOp Permit, then the appropriation amounts specified in Section 1.A of the Permit shall be correspondingly decreased."[73] Generally, Dow agrees with the ALJs' analysis of the effects of the new drought of record on the SysOp Permit. However, Dow has some specifications for the drought evaluation BRA is now required to complete, namely adding certain requirements that need to be included in the drought study recommended by the ALJs.

While in agreement that BRA should be required to study the effects of the new drought of record, Dow perceives the current provisions of the study to be too vague. There are certain things the evaluation should be required to entail. Firstly, prior to performing this detailed evaluation, it is Dow's opinion that BRA needs to develop a Work Plan including specific tasks and assumptions for calculating monthly naturalized flows for the Brazos River Basin for the period from 1998 through 2015, and using these, recalculate the annual firm yield of all BRA system reservoirs and modify the versions of BRA's Firm Appropriation water availability models corresponding to the firm appropriation amounts contained in the Draft Permit. Basically, in order to obtain an accurate reflection of the effects of the entire drought on the SysOps permit, it should be required of BRA's study to redo the naturalized flows for the entire basin, because that is

[73] PFD at 75.

the only way to know the full impact of the drought.[74] This is comparable to what the Lower Colorado River Authority ("LCRA") did in its water management plan. In 2013, the TCEQ Executive Director determined it was necessary to update naturalized flows in the Colorado River Basin in order to include recent drought data in evaluating LCRA's application to amend its Water Management Plan.[75] It is the general consensus of the experts involved in this case that recalculating naturalized flows is essential in granting BRA the SysOps Permit so that an accurate amount of water is contained in the permit, and unavailable water is not appropriated; the experts from TCEQ,[76] Dow,[77] and LGC[78] all acknowledge the necessity of recalculation of naturalized flows for the purpose of determining an accurate number of available water for appropriation. Currently, it is unknown the effect to which the drought of record affected the amount of available water, and this uncertainty of numerical values is precisely the reason that the naturalized flows need to be recalculated. Therefore, to be certain BRA is operating with an accurate quantification of appropriated water under the SysOps Permit, it must be required that naturalized flows in the entire Brazos River Basin are recalculated.

The ALJs recommended that specific language, Special Condition 5.C.7,[79] be added to the Draft Permit to address the potential effects of the drought on the amount of water available for the SysOp Permit. To ensure that the ALJs' recommended drought

[74] Tr. at P. 3584, Lns. 12-18.
[75] Exhibit Dow-47 at P. 27, Lns. 16 – 23 ("If fact, after the 2012 draft WMP for the Lower Colorado River Basin was prepared by the Lower Colorado River Authority and submitted to the TCEQ for review, the TCEQ decided to postpone further analysis of the WMP until the hydrologic database in the Colorado Basin WAM could be extended from 1998 through 2013."); Tr. at P. 3584, Lns. 19-20.
[76] Tr. at P. 3870, Lns. 7-13 (Dr. Alexander).
[77] Tr. at P. 3584, Lns. 12-18 (Dr. Brandes).
[78] LGC Exhibit 1 at P. 41, Lns. 18–20 (Dr. Opdyke testified, "[t]he most relevant factor when evaluating droughts in a water availability analysis is naturalized flows, not reservoir volumes, especially when comparing across basins.").
[79] PFD at 274 – 275.

"study" contains the necessary parameters and specifications to correctly and completely evaluate the effects of the drought when ultimately performed by BRA, Dow would offer the following additions to the language of Special Condition C.7:

> In recognition of current drought conditions, BRA shall perform a detailed evaluation of whether the recently-ended drought: (1) represents a drought worse than the drought of record of the 1950s in the Brazos River Basin; and (2) decreases the amount of water available for appropriation under this permit. Prior to performing this detailed evaluation, BRA shall develop a Work Plan that includes descriptions of specific tasks and assumptions for: (1) calculating monthly naturalized flows using industry-standard procedures for each primary control point included in the TCEQ's water availability model for the Brazos River Basin for the period 1998 through 2015; (2) re-calculating the firm annual yield of all BRA system reservoirs using the complete 1940-2015 hydrologic period of record; (3) modifying the versions of BRA's Firm Appropriation water availability models corresponding to the four appropriation amounts and demand scenarios identified in Paragraph 1.A of this permit to include the 1998-2015 monthly naturalized flows and to reflect current usable storage conditions in all BRA system reservoirs for the second pass of the dual simulation process; and (4) operating the modified Firm Appropriation models as structured above to determine revised values for the appropriation amounts specified in Paragraph 1.A of this permit. The Work Plan shall be subject to public notice and review and shall be approved by the TCEQ prior to initiation of the detailed evaluation. BRA shall provide a report to the TCEQ documenting its findings from the detailed evaluation within nine months after issuance of this permit. If the report concludes that the recently-ended drought decreases the amount of water available for appropriation under this permit, then the appropriation amounts specified in Paragraph 1.A of this permit shall be correspondingly reduced. In addition, all WMP documents and related accounting plans and spreadsheet programs supporting this permit shall be revised to reflect the results from analyses based on the complete 1940-2015 hydrologic period of record.

Additionally, consistent with the ALJs recommendations regarding the drought issue, Dow offers the following additions to the ALJs' new paragraph to be added to page 9 of the WMP,[80] regarding the maximum annual diversions for each reach:

> The maximum annual use for each reach is limited to the largest maximum annual diversion under "SysOp" for that reach in Tables G.3.14 through

[80] PFD at 275 (subparagraph a).

G.3.25 of Appendix G-3 of the WMP Technical Report for the firm appropriation demand scenario that is applicable during the year in which water is diverted, or 1,460 acre-feet, whichever is greater. Tables G.3.14 through G.3.25 shall be appropriately modified to reflect the results from the detailed evaluation of the recently-ended drought that is required to be performed by BRA under Special Condition 5.C.7.

G. Junior Refills

1. Introduction

Dow disagrees with the ALJs' proposed resolution regarding the question of whether the water availability models used in the water availability analysis for Draft Permit No. 5851 inappropriately refilled storage emptied under junior water rights with water only available at the senior priority dates of BRA's existing water rights associated with its reservoirs ("BRA Senior Rights"). All parties agree that reservoir storage emptied under Draft Permit No. 5851 must be refilled with water that is available at the priority date of Draft Permit No. 5851. In addition, Dow believes that refilling water emptied under BRA's System Order must be done at a priority date junior to all water rights hydrologically connected to the reservoir in which the storage is to be refilled. Dow believes that the BRA Firm Appropriation WAMs used for quantifying the appropriation amounts for Draft Permit No. 5851 instead are allowing storage emptied under Draft Permit No. 5851 and the System Order to be refilled at the priority date of BRA's Senior Rights, referred to herein as the "Junior Refill" issue. This issue is a direct result of the configuration of the SysOps WAMs and an erroneous interpretation of the System Order.

2. Issue of Junior Refills[81]

[81] Dow uses the term "Junior Refills" to refer to allowing storage emptied under Draft Permit No. 5851 or the System Order to be refilled with water only available at the priority dates of BRA's Senior Rights.

In the hearing, Dow questioned whether the water availability models used by TCEQ and BRA were effective at preventing storage emptied under Draft Permit No. 5851 and the System Order from being refilled using water available only at the priority dates of BRA's Senior Rights. All parties agree that storage emptied under the junior-priority SysOps Permit must not be refilled with water only available at the priority dates of BRA's Senior Rights,[82] and BRA[83] and the ED[84] argue that the models do not allow the refilling of storage emptied under the SysOps Permit with senior-priority water.

However, in his prefiled testimony Dr. Brandes testified that he believed that the models used by BRA and TCEQ to perform the water availability analysis for Draft Permit No. 5851 were not always preventing storage emptied by Draft Permit No. 5851 and the System Order from being refilled with water available only at the priority dates of BRA's Senior Rights.[85] Although this is an important issue, the ALJs attempt to couch this issue as a battle of the experts and base their decision on who they consider more qualified to address questions regarding the WAMs.[86] Dow does not believe that this is the appropriate way to evaluate the evidence because all three experts are highly experienced hydrologists; the difference is between what evidence they base their opinions on and what analyses each conducted to formulate those opinions. Mr. Gooch and Dr. Alexander base their opinions solely on their knowledge of how they believe the SysOps WAMs work, but they did not check to see if the WAM actually operates as they

[82] Tr. at P. 4156. Lns. 13-15; BRA Exhibit 113, Technical Report at 5-13 (Section 5.4.6.2).
[83] Tr. at P. 3124, Ln. 2 – P. 3125, Ln. 11.
[84] Tr. at P. 3961, Ln. 7 – P. 3963, Ln. 13.
[85] Dow Exhibit 47 at P. 38, Ln. 1 – P. 39, Ln. 23.
[86] PFD at 80-82.

believe.[8788] Conversely, Dr. Brandes based his opinion on what the SysOps WAMs actually do, the results that were produced, and his analysis of those results. As Dr. Brandes testified:

> I performed this analysis using simulated monthly diversions and releases, end-of-month storage, and monthly senior-priority and junior-priority refill quantities for Possum Kingdom Reservoir from the Scenario 9 Firm Appropriation model as presented in the WMP. For this analysis, I considered the period covered by the 1950s drought from the time Possum Kingdom Reservoir initially spilled at the beginning of the drought, then went essentially dry, and then refilled again to a full condition at the end of the drought. In the WAM simulation, this period extends from October 1950 through May 1957, a duration of almost seven years. In this analysis, I basically performed a monthly accounting of diversion and release quantities that should have been refilled at the senior-priority date for Possum Kingdom Reservoir and at the junior-priority date associated with the SysOps permit or the System Order, and maintained a running total for the volume of storage capacity in the reservoir that could only be refilled at a junior priority date. Comparing results from this analysis with the actual simulated quantities of the senior-priority refills from the WAM indicated that approximately 175,000 acre-feet of inflows to the reservoir were used improperly to refill junior-priority storage capacity at the senior priority date. If properly accounted for in the WAM simulation, this 175,000 acre-feet of inflows should have been passed downstream for use by other water rights.[89]

Dr. Brandes actually calculated on a monthly basis the amount of storage emptied by senior water rights and by junior water rights as simulated with the WAM, and then compared these quantities to the amounts of junior-priority and senior-priority water used to refill Possum Kingdom Reservoir over the entire duration of the 1950s drought that he investigated. He found that the volume of senior-priority water that was used to refill

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[87] Tr. at P. 3125, Ln. 9 (Gooch testifies that "[i]t's done in the WAM.").

[88] Tr. at P. 3963, Lns. 6 – 13 (Alexander):

Q Okay. But if it – but how does the WAM carry over storage that was – that was made empty by use under the junior priority so it's not refilled the next month at the senior priority?

A I don't know. I don't know that it exactly does that.

Q Do you know that it doesn't do it?

A No.

[89] Exhibit Dow 57 at P. 17, Ln. 14 – P. 18, Ln. 7.

storage in the reservoir was considerably greater than the volume of storage emptied under BRA's senior-priority water right, indicating that a substantial portion of the senior-priority water was actually used to refill storage emptied under the junior-priority SysOps Permit or the System Order. Dow produced the Excel spreadsheet that Dr. Brandes used to do this analysis to the parties. Dow does not know whether Dr. Alexander or Mr. Gooch reviewed Dr. Brandes's spreadsheet, but neither took issue with it. Additionally, neither Dr. Alexander nor Mr. Gooch put forth any quantification of storage emptied under BRA's junior-priority and senior-priority water rights and the priorities of the water used to refill these storage quantities as simulated with the SysOps WAMs. In other words, Dr. Brandes's analysis was the only rigorous analysis of whether the Junior Refill issue actually occurs.

In contrast to Dr. Brandes's direct analysis of the Junior Refill question, Dr. Alexander and Mr. Gooch merely provided conclusory and sometimes irrelevant testimony. For example, Dr. Alexander opines that the accounting plan will prevent Junior Refills from adversely impacting third party water rights.[90] Dr. Brandes's concern is that the WAM does not prevent Junior Refills and therefore overstates water availability for purposes of quantifying the appropriation amount(s) for the SysOps Permit. The accounting plan is not even used in the water availability analysis.[91] Dr. Alexander's opinion is therefore not relevant to water availability in the context of determining the correct appropriation amount(s) for the SysOps Permit, but instead addresses only the protection of third-party water rights during actual operations. Mr. Gooch did address Dr. Brandes's Junior Refill testimony that was contained in Dr.

[90] PFD at 82; Tr. at P. 3963, Ln. 25 – P. 3964, Ln. 7; Tr. at P. 3691, Lns. 11-13.
[91] Tr. at P. 4259, Lns. 9–13.

Brandes's prefiled testimony, but simply ignored Dr. Brandes's detailed analysis of the Junior Refill issue in Dr. Brandes's supplemental testimony; however, Mr. Gooch opined that the SysOps WAMs work correctly with no analytical evidence to support this opinion.

Dow believes that in evaluating the evidence regarding the Junior Refill issue in the PFD, the ALJs mistakenly focused on inconsequential details of each expert's resume instead of exactly what each expert evaluated, analyzed, and opined. The ALJs' decision seemed to turn solely on the fact that Dr. Alexander "has worked with the model very intensely for many years to analyze water-availability questions for the Commission."[92] Dow contends that BRA's Application is so unique and complex that the actual analyses performed specific to this Application should far outweigh modeling experience on other water rights. Dr. Brandes actually compared the amount of storage emptied with the amount of storage refilled under junior-priority and senior-priority water rights, while Dr. Alexander and Mr. Gooch conducted no such direct analysis.

As noted by the ALJs, all three experts are "highly qualified and credible"[93] hydrologists. However, only one (Dr. Brandes) looked at the data quantifying the emptying and refilling of storage as simulated with the SysOps WAMs. Dr. Alexander and Mr. Gooch simply offered opinions as to whether they believed the WAM was accurately preventing Junior Refills without looking at the actual data. This is like three doctors evaluating whether a patient has a broken arm where only one of the doctors takes an x-ray. If the three doctors had different opinions regarding whether the arm is

[92] PFD at 83.
[93] *Id*.

broken, one would not likely decide between the opinions based on anything other than which doctor took the x-ray.

3. Legal Construction of BRA's System Order

Dow disagrees with the legal construction of BRA's System Order ascribed by the ALJs. The Possum Kingdom Reservoir water right and other BRA reservoir water rights have special conditions that effectuate the BRA System Order. Like Dr. Alexander, the ALJs misconstrued the special conditions in BRA's Possum Kingdom Reservoir water right and other water rights regarding the System Order. In the PFD, the ALJ's include the following language for the proposition that the system order is not junior to all existing water rights:

> [BRA] shall store in the system reservoirs only appropriable waters of the Brazos River and its tributaries, subject to the rights of holders of other water rights. Subsequent to the diversion or release of water from any system reservoir in excess of the amount authorized as a priority right for that reservoir, [BRA's] right to impound any additional water in that reservoir is subject to the rights of holders of downstream senior and junior water rights to require passage of inflows to which they would be entitled in the absence of this additional use under the systems operations. Whenever the Commission determines that [BRA] is storing any water to which holders of other Water rights are entitled, [BRA] shall release said water.[94]

As testified to by Mr. Brunett, "the system order has no priority, so it's junior – junior to everything."[95] It is a special "non-priority" case, as it has neither a priority date with which to make a priority call nor a priority date to resist a priority call. It is junior not only to water rights granted before it but also to water rights granted after it. Dr. Brandes's point is that by using a WAM that does not perform storage accounting

[94] PFD at 83 – 84.
[95] Tr. at p. 2918, lns. 22 – 23.

(tracking of the volume of storage emptied by senior rights, the System Order, and Draft Permit No. 5851), storage emptied under the System Order can be refilled with senior priority water. This results in the appropriation amount of Draft Permit No. 5851 being overstated.

Note that the last sentence of the language quoted by the ALJs is what the WAM would do if properly configured. It would determine whether there were inflows to Possum Kingdom Reservoir (or other BRA reservoirs with storage emptied under the System Order) used refill storage emptied under the System Order that are needed by other water rights and pass them though Possum Kingdom Reservoir (or other BRA reservoirs). The Run 3 WAM assumes that all water rights need their full appropriation amount. Therefore, if there is storage in BRA reservoirs that has been emptied by use of the System Order, it cannot be refilled if there is any water right downstream that is not fully satisfied.

By way of illustration, assume that BRA has Reservoir A that has an authorized diversion amount of 100,000 acre-feet per year. Also assume that there is a water right, Junior B, downstream of and junior to Reservoir A. Assume that in a year BRA uses 100,000 acre-feet under the base right of Reservoir A and 20,000 acre-feet from Reservoir A under the System Order. If BRA refills Reservoir A with 120,000 of inflows, Junior B will have 20,000 less inflow that would have been available but for the use under the System Order. The language of the System Order states that BRA's refills of storage emptied under the System Order are subject to downstream senior and junior water rights. As stated by Dr. Brandes, for purposes of determining the availability of water under the Draft Permit No. 5851, the SysOps WAM needs to be properly

configured to prevent storage emptied under the System Order from being refilled at a priority date more senior to any downstream water right. The fact that BRA and the ED argue so vehemently against the language and the logical meaning of the special conditions limiting refills under the System Order is an indication that they know the model is not properly configured to prevent the non-priority depletions of stream flow to refill storage emptied under the System Order from prejudicing water rights that are entitled to those stream flows.

H. Impairment of Existing Water Rights

In the PFD, the ALJs' concluded that, "BRA's operation under the SysOp Permit would not increase salinity to levels that would impair water quality or existing water rights."[96] The issue of increased salinity due to operations under the SysOps Permit and its potential impairment of existing water rights was solely argued during the first evidentiary hearing. As such, Dow will not reargue the same exceptions to the ALJs' conclusion here, but Dow instead incorporates by reference its arguments on salinity from its closing argument after the first hearing on the merits[97] and its exceptions to the ALJs' first proposal for decision on this issue.[98]

XII. BENEFICIAL USE

The ALJs found "that BRA met its burden to prove that the SysOp Permit appropriations are intended for beneficial use."[99] An applicant for an appropriation of

[96] PFD at 97.
[97] Dow's Closing Argument (associated with the first hearing on the merits) at 25-45.
[98] Dow's Exceptions to the ALJs' Proposal for Decision (associated with the first hearing on the merits) at 5-17.
[99] PFD at 116.

state water has the burden to prove that the water sought to be appropriated "is intended for a beneficial use."[100] Dow agrees with the ALJs that the water that can actually be diverted and used under the SysOps Permit is "intended for a beneficial use." However, Dow argued during the second evidentiary hearing that BRA's models overstate the unappropriated water available because part of the proposed appropriation is dependent on: (1) storage that does not exist, (2) yield no longer available because of the new drought of record, and (3) refilling storage emptied by the System Order and SysOps Permit with senior priority water.

In the PFD, the ALJs held that the proposed appropriation amounts in the Draft Permit should be reduced to account for capacity lost due to sedimentation[101] and to account for the drought of record (if a reduction is warranted based on the drought study recommended by the ALJs).[102] If these holdings by the ALJs are followed by the TCEQ, this addresses two of Dow's concerns regarding beneficial use. However, Dow still contends that BRA's proposed appropriation is overstated due to the Junior Refills issue (BRA's modeling allowing the refilling of storage emptied by the System Order and SysOps Permit with senior priority water). Because this error overstates the amount of unappropriated water in the source of supply, this additional water associated with the Junior Refills error can never be beneficially used by BRA in reality, violating Section 11.134(b)(3)(A) of the Texas Water Code.

XIII. LAWS CONCERNING ENVIRONMENTAL AND INSTREAM FLOWS

[100] Tex. Water Code § 11.134(b)(3)(A).
[101] See PFD, Section XI.D. at 53-66.
[102] See PFD, Section XI.F. at 67-76.

Dow has no exceptions to the ALJs' "Laws Concerning Environmental and Instream Flows" section of the PFD.

XIV. APPLICATION'S COMPLIANCE WITH ENVIRONMENTAL FLOW RULES

B. Disputes Concerning Compliance with SB 3 Rules

3. BRA's Treatment of High Flow Pulses in the SysOps Permit Is Not Consistent with the TCEQ Rules

On the issue of passage of high flow pulses, "[t]he ALJs conclude that BRA's proposal complies with TCEQ's high flow pulse rule for the Brazos River Basin, 30 Texas Administrative Code § 298.475(d)."[103] Contrary to this conclusion by the ALJs, BRA's "proposal" under the SysOps Permit with respect to high flow pulses will directly violate the plain language of the rule. The TCEQ rule states, "[t]he water right holder *shall not* divert or *store water* until either the applicable volume amount has passed the applicable measurement point or the duration time has passed since the high flow pulse trigger level occurred except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse trigger level."[104] Despite this clear "mandatory" language specifying that a water right holder shall not store water with regard to high flow pulses, BRA's proposal is that "[t]he WMP allows the BRA to temporarily store pulse events."[105] Moreover, BRA witness, Mr. Osting, testified that there is no limit on the time that BRA may store water that comprises a potential high

[103] PFD at 170.
[104] 30 Tex. Admin. Code § 298.475(d)(1) (emphasis added).
[105] BRA Exhibit 113, WMP Technical Report at 5-6 (Section 5.4.1.4 Diversion and Storage of High Flow Pulses).

flow pulse,[106] meaning that this "temporary" storage could occur for a lengthy period of time in actual practice.

The ALJs, BRA, and the ED cite no reference to Title 30, Texas Administrative Code, Subchapter G, authorizing this temporary storage of pulse flows rather than passing them as required under the clear language of Subchapter G. The ALJs, in the PFD, seem to accept that this temporary storage of pulses is contrary to the plain language of the rule, stating that, "[a]t most, BRA proposes a delay in passing water in order to determine whether the rule requires BRA to pass the water. It would appear that BRA has no reasonable alternative to feasibly execute the rule's requirement."[107] This is simply another situation where the ALJs have determined that BRA's Application is too complex or complicated to comply with the TCEQ rules. Like the TCEQ rules in Sections 295.5, 295.6, and 295.7 that required certain information regarding BRA's diversion amount, rate, and points, respectively, the ALJs lower the compliance bar because BRA's Application did not satisfy the plain requirements of those rules. Instead of repeatedly having to conclude that numerous TCEQ rules saying something "shall" be done are "directory" or need to be "read in context," at some point the discussion should shift to whether this Application simply does not comply with the plain language of the TCEQ rules.

Dow believes if BRA (in spite of the contrary language in 30 Tex. Admin. Code § 298.475(d)(1)) is authorized to impound potential high flow pulses after a high flow pulse trigger level has occurred, there should be some limit on the length of

[106] Tr. at P. 3300, Lns. 12-15.
[107] PFD at 170.

impoundment. The longer BRA impounds qualifying pulse flows, the less likely it is that the intended beneficial purpose for passing high flow pulses will be achieved. Certainly BRA should be able to determine whether it has impounded a high flow pulse that needs to be passed one or two days after the duration time elapsed since the high flow pulse trigger level occurred. This should give BRA time to determine whether a high flow pulse occurred, and if so, whether the inflows can be impounded under its senior rights or must be released under Draft Permit No. 5851.

XV. NO DISPUTE CONCERNING GROUNDWATER

Dow has no exceptions to the ALJs' "No Dispute Concerning Groundwater" section of the PFD.

XVI. PUBLIC WELFARE, PUBLIC INTEREST AND INSTREAM USES

In the PFD, the ALJs concluded, "that the proposed appropriation to BRA is not detrimental to the public welfare."[108] Chapter 11 of the Texas Water Code requires that the Commission find that a proposed application "is not detrimental to the public welfare" before granting the application.[109] As discussed in Sections XI.G, *supra*, the Application appropriates a substantial amount of water that can never be beneficially used by BRA due to the "Junior Refills" error in BRA's modeling. Appropriating this Junior Refills water to BRA is detrimental to the public welfare because it provides BRA authorization to divert and use more water than is actually available in the source of supply.

[108] PFD at 195.
[109] Tex. Water Code § 11.134(b)(3)(C).

The Texas Water Code also requires that the Commission consider the effect of the application for a water rights permit on existing instream uses, water quality and fish and wildlife habitats.[110] Dow contended (in the first evidentiary hearing) that BRA's Application could have a negative effect on water quality, specifically with regard to salinity. This was briefed extensively in Dow's arguments in the first evidentiary hearing and is hereby incorporated by reference.[111]

XVII. CONSISTENCY WITH WATER PLANS

Dow has no exceptions to the ALJs' "Consistency with Water Plans" section of the PFD.

XVIII. CONSERVATION AND DROUGHT PLANNING

Dow has no exceptions to the ALJs' "Conservation and Drought Planning" section of the PFD.

XIX. RETURN FLOWS

Dow understands the ALJs interpretation of the law associated with return flows in the PFD,[112] and believes it is a reasonable interpretation of Section 11.042 and Section 11.046 of the Texas Water Code. However, Dow supports the ED's approach to return flows with respect to BRA's SysOps Permit due the scope of BRA's Application, which basically attempts to appropriate all the return flows in the Brazos River basin. Dow's

[110] Tex. Water Code §§ 11.147(d) and (e), 11.152.
[111] *See* Dow's Closing Argument (associated with the First Hearing on the Merits) at 25-45.
[112] PFD at 224-233.

position is that BRA's proposed appropriation in this case is so large and so speculative that the ED's approach is much more protective of existing water rights in the basin.

XX. BED AND BANKS AUTHORIZATION

Dow has no exceptions to the ALJs' "Bed and Banks Authorization" section of the PFD.

XXI. INTERBASIN TRANSFERS

Dow has no exceptions to the ALJs' "Interbasin Transfers" section of the PFD.

XXII. OTHER CONCERNS REGARDING THE PROCESS

Dow has no exceptions to the ALJs' "Other Concerns Regarding the Process" section of the PFD.

XXIII. BEFORE AND AFTER CONSTRUCTION OF THE ALLENS CREEK RESERVOIR

Dow has no exceptions to the ALJs' "Before and After Construction of the Allens Creek Reservoir" section of the PFD.

XXIV. COASTAL MANAGEMENT PLAN

Dow has no exceptions to the ALJs' "Coastal Management Plan" section of the PFD.

XXV. WETLANDS

Dow has no exceptions to the ALJs' "Wetlands" section of the PFD.

XXIV. WATERMASTER

In the PFD, the ALJs "see no legal basis for adding a condition to the permit requiring the continued existence of a watermaster in the lower Brazos River Basin."[113] Dow disagrees. BRA and the ED relied extensively on the watermaster being in place to address the issues with the SysOps Permit during the second evidentiary.[114] Based on this reliance, Dow contends that the draft permit should contain a special condition making the SysOps Permit contingent on the existence of the watermaster. If the watermaster program were to be extinguished or modified in the future, the water right would have to be reviewed by TCEQ to determine if compliance was possible without the existence of a watermaster.

XXVIII. ADDITONAL PROPOSED PERMIT CHANGES BY PARTIES

Dow has no exceptions to the ALJs' "Additional Proposed Permit Changes by Parties" section of the PFD.

XXIX. TRANSCRIPTION COSTS

Dow has no exceptions to the ALJs' "Transcription Costs" section of the PFD.

XXX. RECOMMENDATIONS

[113] PFD at 262.
[114] *See* Dow's Closing Argument at 74-75.

Consistent with Dow's proposed changes to the specifications regarding the ALJs' proposed study on the new drought of record and its effects on the appropriation of the SysOps Permit, detailed in Section XI.F *supra*, Dow proposes the following additions to the language of Special Condition C.7 in the ALJs' Recommendations:

> In recognition of current drought conditions, BRA shall perform a detailed evaluation of whether the recently-ended drought: (1) represents a drought worse than the drought of record of the 1950s in the Brazos River Basin; and (2) decreases the amount of water available for appropriation under this permit. Prior to performing this detailed evaluation, BRA shall develop a Work Plan that includes descriptions of specific tasks and assumptions for: (1) calculating monthly naturalized flows using industry-standard procedures for each primary control point included in the TCEQ's water availability model for the Brazos River Basin for the period 1998 through 2015; (2) re-calculating the firm annual yield of all BRA system reservoirs using the complete 1940-2015 hydrologic period of record; (3) modifying the versions of BRA's Firm Appropriation water availability models corresponding to the four appropriation amounts and demand scenarios identified in Paragraph 1.A of this permit to include the 1998-2015 monthly naturalized flows and to reflect current usable storage conditions in all BRA system reservoirs for the second pass of the dual simulation process; and (4) operating the modified Firm Appropriation models as structured above to determine revised values for the appropriation amounts specified in Paragraph 1.A of this permit. The Work Plan shall be subject to public notice and review and shall be approved by the TCEQ prior to initiation of the detailed evaluation. BRA shall provide a report to the TCEQ documenting its findings from the detailed evaluation within nine months after issuance of this permit. If the report concludes that the recently-ended drought decreases the amount of water available for appropriation under this permit, then the appropriation amounts specified in Paragraph 1.A of this permit shall be correspondingly reduced. In addition, all WMP documents and related accounting plans and spreadsheet programs supporting this permit shall be revised to reflect the results from analyses based on the complete 1940-2015 hydrologic period of record.

Additionally, Dow offers the following additions to the ALJs' new paragraph to be added to page 9 of the WMP,[115] regarding the maximum annual diversions for each reach:

[115] PFD at 275 (subparagraph a).

The maximum annual use for each reach is limited to the largest maximum annual diversion under "SysOp" for that reach in Tables G.3.14 through G.3.25 of Appendix G-3 of the WMP Technical Report for the firm appropriation demand scenario that is applicable during the year in which water is diverted, or 1,460 acre-feet, whichever is greater. Tables G.3.14 through G.3.25 shall be appropriately modified to reflect the results from the detailed evaluation of the recently-ended drought that is required to be performed by BRA under Special Condition 5.C.7.

XXXI. PROPOSED CHANGES TO FINDINGS OF FACT AND CONCLUSIONS OF LAW

A. Proposed Changes to the ALJs' Findings of Fact

Finding of Fact 45.

Dow contends that the amount of water BRA is authorized to use is not stated in definitive terms as is required by 30 Tex. Admin. Code § 295.5. Therefore, the ALJs' Finding of Fact 45 should be deleted:

~~45. The amount of water BRA is authorized to use is stated in definitive terms.~~

Finding of Fact 53.

Finding of Fact 53 should be deleted as it is not consistent with the TCEQ rule cited. As discussed in Section X.E, *supra*, 30 Texas Administrative Code § 297.102(b) only applies to the delivery of stored water to a downstream customer. The water under Permit No. 5851 will be a combination of stored water released from a BRA Reservoir and run of river flows. BRA provided no evidence of TCEQ authorizing a new diversion point for run of river water through only the filing of a water supply contract.

~~53. The System Operation Permit authorizes storage of System Operation Permit water. Therefore, BRA may use 30 Texas Administrative Code § 297.l02(b) to add diversion points in the future and those new diversion points will be specifically identified~~

~~and provided to the TCEQ before diversions can occur at the new location.~~

Finding of Fact 70.

Pursuant to the argument in Section XI.D, *supra*, Dow believes the maximum annual diversion amount under each Demand Level needs to be recalculated to obtain an accurate reduction for each individual level. Finding of Fact 70 evidences the ALJs' proposal of instituting a blanket 14% reduction for each demand level based Dow's evidence associated with the reductions for Demand Levels C and D. Instead, the correct reduction for each demand level can be done as part of the conclusion to the drought study also mandated by the ALJs for BRA's Application.

Finding of Fact 74.

As stated in Section XI.G, *supra*, the ALJs misconstrued the special conditions in BRA's Possum Kingdom Reservoir water right and other water rights regarding the System Order. Dow contends that the system order has no priority. It is a special "non-priority" case, as it has neither a priority date with which to make a priority call nor a priority date to resist a priority call. It is junior not only to water rights granted before it but also to water rights granted after it. As such, the ALJs' Finding of Fact 74 should be deleted.

~~74. The Applicant's existing water rights permits do not require that storage under the 1964 System Operation Order be at a junior priority. Instead, they allow storage at the existing priority but the water so stored is subject to release for downstream needs at TCEQ's direction.~~

Finding of Fact 75.

As stated in Section XI.G, *supra*, Dow argues that the WAM does not fix the Junior Refills issue. Dow's expert, Dr. Brandes, was the only expert to actually analyze

the data specific to BRA's modeling and determined that the WAM does allow water storage capacity emptied at the junior priority to be refilled at the senior priority of BRA's existing senior rights in certain situations. Therefore, Dow contends that Finding of Fact 75 is incorrect and should be deleted in its entirety.

> ~~75. The Water Availability Model (WAM) used by TCEQ operates in such a fashion that water storage capacity emptied at the junior priority is refilled at the junior priority.~~

Finding of Fact 82.

Dow believes that the appropriate process for addressing the recently ended drought should be much like the process used by LCRA in the Colorado River basin. In this regard, Dow recommends the following changes to the ALJs' proposed Finding of Fact 82:

> In recognition of current drought conditions, BRA shall perform a detailed evaluation of whether the recently-ended drought: (1) represents a drought worse than the drought of record of the 1950s in the Brazos River Basin; and (2) decreases the amount of water available for appropriation under this permit. Prior to performing this detailed evaluation, BRA shall develop a Work Plan that includes descriptions of specific tasks and assumptions for: (1) calculating monthly naturalized flows using industry-standard procedures for each primary control point included in the TCEQ's water availability model for the Brazos River Basin for the period 1998 through 2015; (2) re-calculating the firm annual yield of all BRA system reservoirs using the complete 1940-2015 hydrologic period of record; (3) modifying the versions of BRA's Firm Appropriation water availability models corresponding to the four appropriation amounts and demand scenarios identified in Paragraph 1.A of this permit to include the 1998-2015 monthly naturalized flows and to reflect current usable storage conditions in all BRA system reservoirs for the second pass of the dual simulation process; and (4) operating the modified Firm Appropriation models as structured above to determine revised values for the appropriation amounts specified in Paragraph 1.A of this permit. The Work Plan shall be subject to public notice and review and shall be approved by the TCEQ prior to initiation of the detailed evaluation. BRA shall provide a report to the TCEQ documenting its findings from the detailed evaluation within nine months after issuance of this permit. If the

report concludes that the recently-ended drought decreases the amount of water available for appropriation under this permit, then the appropriation amounts specified in Paragraph 1.A of this permit shall be correspondingly reduced. In addition, all WMP documents and related accounting plans and spreadsheet programs supporting this permit shall be revised to reflect the results from analyses based on the complete 1940-2015 hydrologic period of record.

Finding of Fact 85.

Finding of Fact 85 needs to be modified as follows:

> To protect existing water rights, the WAM uses a "dual simulation" modeling technique that is intended to prevents any existing BRA water rights from using more water at its original priority date than it could have without the System Operation Permit. When the WAM is rerun to quantify water reliability in light of the recently ended drought, the WAM output should be reviewed to make sure that storage emptied, pursuant to junior water rights is not refilled with senior priority water. If the WAM is allowing storage emptied under junior water rights to be refilled with senior priority water, the WAM should be reprogrammed to track the amount of storage emptied under junior and senior water rights.

Finding of Fact 90.

Dow contends that the SysOps Permit could have an adverse effect on existing water rights because: (1) BRA failed to provide the necessary information mandated by Chapter 295 of the TCEQ rules by not specifying an amount to be used in definite terms, a maximum rate of diversion, and exact locations for its diversion points; (2) BRA's accounting plan does not prevent Junior Refills under the System Order; and (3) BRA provided no evidence as was its burden on salinity. For these reasons, Dow contends that Finding of Fact 90 should be deleted.

> ~~90. There will be no adverse effect on existing water rights by the System Operation Permit.~~

Finding of Fact 91.

As stated in Section XI., *supra*, Dow argues that the water requested by BRA is not all available for appropriation because BRA's modeling overstates the amount of unappropriated water available in the source of supply. Therefore, Dow contends that Finding of Fact 91 is incorrect and should be deleted in its entirety.

~~91. The water requested by BRA is available for appropriation.~~

Findings of Fact 112 and 118.

As stated in Section XIV., *supra*, Dow argues BRA's proposal in the WMP, which allows BRA to temporarily store potential high flow pulses, is not consistent with the TCEQ rules. Therefore, Dow contends that Finding of Fact 112 is incorrect and should be deleted in its entirety. Dow also believes that Finding of Fact 118 should be deleted because Dow does not agree with the ALJs that this temporary storage of potential high flow pulses is a "practical reality."

~~112. Consistent with the TCEQ rules, the WMP prohibits the Applicant from diverting or storing water under the System Operation Permit if such storage or diversion would prevent meeting a seasonal schedule or individual high flow pulse at the applicable measurement point, unless the seasonal schedule has already been met.~~

~~118. Temporary storage of pulse events is a practical reality. A pulse event coming into a reservoir will be captured inside the reservoir. Temporary storage of a pulse is necessary to determine: (1) if storage is occurring under the System Operation Permit; and (2) whether applicable environmental flow conditions are being met.~~

Finding of Fact 119.

If the TCEQ determines that temporary storage of potential high flow pulses should be allowed, Finding of Fact 119 should at least specify a maximum time a qualifying pulse can be stored.

~~While the~~ The WMP ~~does not~~ should specify ~~a period of time in which a~~ that a qualifying pulse must be released no more than one day after the duration time has elapsed (if one is required to be released), the pulse requirements will need to be satisfied in accordance with the environmental flow conditions if BRA intends to use the water under the System Operation Permit. BRA's best chance of meeting the environmental flow conditions will be to make the release consistent with other hydrological events that are occurring at the same time.

Finding of Fact 150.

As stated in Section XVI., *supra*, Dow contends that BRA's Application is detrimental to the public welfare because BRA's modeling overstates the amount of unappropriated water available in the source of supply. Therefore, Dow contends that Finding of Fact 150 is incorrect and should be deleted in its entirety.

~~150. The System Operation Permit will not be detrimental to the public welfare, and in fact provides significant public welfare benefits.~~

Finding of Fact 176.

Pursuant to the argument in Section XI.D, *supra*, Dow believes the maximum annual diversion amount under each Demand Level needs to be recalculated to obtain an accurate reduction for each individual level. Similar to Finding of Fact 70 detailed above, Finding of Fact 176.b. evidences the ALJs' proposal of instituting a blanket 14% reduction for each demand level based on Dow's evidence associated with the reductions for Demand Levels C and D. Instead, Dow contends that the correct reduction for each demand level can be done as part of the conclusion to the drought study also mandated by the ALJs for BRA's Application.

Additionally, Finding of Fact 176.f. should be changed to be consistent with Dow's recommendations associated with evaluation of the drought of record in Section XI.F, *supra*, as follows:

In recognition of current drought conditions, BRA shall perform a detailed evaluation of whether the recently-ended drought: (1) represents a drought worse than the drought of record of the 1950s in the Brazos River Basin; and (2) decreases the amount of water available for appropriation under this permit. Prior to performing this detailed evaluation, BRA shall develop a Work Plan that includes descriptions of specific tasks and assumptions for: (1) calculating monthly naturalized flows using industry-standard procedures for each primary control point included in the TCEQ's water availability model for the Brazos River Basin for the period 1998 through 2015; (2) re-calculating the firm annual yield of all BRA system reservoirs using the complete 1940-2015 hydrologic period of record; (3) modifying the versions of BRA's Firm Appropriation water availability models corresponding to the four appropriation amounts and demand scenarios identified in Paragraph 1.A of this permit to include the 1998-2015 monthly naturalized flows and to reflect current usable storage conditions in all BRA system reservoirs for the second pass of the dual simulation process; and (4) operating the modified Firm Appropriation models as structured above to determine revised values for the appropriation amounts specified in Paragraph 1.A of this permit. The Work Plan shall be subject to public notice and review and shall be approved by the TCEQ prior to initiation of the detailed evaluation. BRA shall provide a report to the TCEQ documenting its findings from the detailed evaluation within nine months after issuance of this permit. If the report concludes that the recently-ended drought decreases the amount of water available for appropriation under this permit, then the appropriation amounts specified in Paragraph 1.A of this permit shall be correspondingly reduced. In addition, all WMP documents and related accounting plans and spreadsheet programs supporting this permit shall be revised to reflect the results from analyses based on the complete 1940-2015 hydrologic period of record.

B. Proposed Changes to the ALJs' Conclusions of Law

Conclusions of Law 10, 11, 12 and 14.

These proposed Conclusions of Law are based on an error of law proposed by BRA and adopted by the ALJs that the requirements of 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7 are only directory instead of mandatory and do not have to be complied with. If the Commission finds that compliance with 30 Texas Administrative Code §§ 295.5, 295.6, and 295.7 is required, pursuant to Dow's argument in Section X.B,

supra, Conclusions of Law 10, 11, 12 and 14 should be deleted and the Application must be denied.

~~10. Application No. 5851 sufficiently identifies the total amount of water to be used in definitive terms in accordance with 30 Texas Administrative Code § 295.5.~~

~~11. Application No. 5851 sufficiently identifies the maximum diversion rate in accordance with 30 Texas Administrative Code § 295.6.~~

~~12. Application No. 5851 sufficiently identifies diversion points and reaches and complies with 30 Texas Administrative Code § 295.7.~~

~~14. Application No. 5851 complies with the applicable procedural rules in Chapter 295 of Title 30 of the Texas Administrative Code.~~

Conclusion of Law 13.

Conclusion of Law 13 should be deleted as it is not consistent with the TCEQ rule cited. As discussed in Section X.E, *supra*, 30 Texas Administrative Code § 297.102(b) only applies to the delivery of stored water to a downstream customer. The water under Permit No. 5851 will be a combination of stored water released from a BRA Reservoir and run of river flows. BRA provided no evidence of TCEQ authorizing a new diversion point for run of river water through only the filing of a water supply contract.

~~13. New diversion points may be added in the future in accordance with 30 Texas Administrative Code § 297.l02(b).~~

Conclusion of Law 21.

As stated in Section XVI., *supra*, Dow contends that BRA's Application is detrimental to the public welfare because BRA's modeling overstates the amount of unappropriated water available in the source of supply. Therefore, similar to Dow's

argument for deleting Finding of Fact 150 above, Dow contends Conclusion of Law 21 is incorrect and should be deleted in its entirety.

> ~~21. Permit No. 5851 will not be detrimental to the public welfare. Texas Water Code § 11.134(b)(3)(C).~~

Conclusion of Law 23.

Conclusion of Law 23 should be changed follows:

> A water right permit that complies with the environmental flow standards of Chapter 298, Title 30 of the Texas Administrative Code ~~will~~ is presumed to maintain water quality and instream uses, including recreation and habitat for fish and aquatic wildlife, and provide necessary beneficial flows to bays and estuaries while considering all public interests and fully satisfying the requirements of Texas Water Code §§ 11.0235(b) and (0); 11.046(b); 2811.134(b)(3)(D); 1l.147(b), (d), (e), and (e-3); 11.150; and 11.152; and 30 Texas Administrative Code § 297.54(a).

Conclusion of Law 25.

Conclusion of Law 25 should be deleted because the environmental conditions in Permit No. 5841 are not consistent with the TCEQ rule associated with high flow pulses. The Commission should consider adopting Conclusion of Law 25 only if it also adopts Dow's proposed changes to Finding of Fact 119, which adds language fixing a maximum amount of time that potential high flow pulses can be temporarily stored by BRA.

> ~~25. The environmental flow conditions in Permit No. 5851 implement and are consistent with the environmental flow standards adopted for the Brazos River Basin. 30 Texas Administrative Code Ch. 298, Subchapters A and G.~~

Conclusion of Law 37.

Based on the evidence presented at the second evidentiary hearing, Dow contends that BRA's Application for the SysOps Permit should not be granted. Therefore, Conclusion of Law 37 should be deleted.

Provision 1.f. in the ALJs' Proposed Order should also be changed consistent with Dow's recommendations associated with evaluation of the drought of record, as follows:

In recognition of current drought conditions, BRA shall perform a detailed evaluation of whether the recently-ended drought: (1) represents a drought worse than the drought of record of the 1950s in the Brazos River Basin; and (2) decreases the amount of water available for appropriation under this permit. Prior to performing this detailed evaluation, BRA shall develop a Work Plan that includes descriptions of specific tasks and assumptions for: (1) calculating monthly naturalized flows using industry-standard procedures for each primary control point included in the TCEQ's water availability model for the Brazos River Basin for the period 1998 through 2015; (2) re-calculating the firm annual yield of all BRA system reservoirs using the complete 1940-2015 hydrologic period of record; (3) modifying the versions of BRA's Firm Appropriation water availability models corresponding to the four appropriation amounts and demand scenarios identified in Paragraph 1.A of this permit to include the 1998-2015 monthly naturalized flows and to reflect current usable storage conditions in all BRA system reservoirs for the second pass of the dual simulation process; and (4) operating the modified Firm Appropriation models as structured above to determine revised values for the appropriation amounts specified in Paragraph 1.A of this permit. The Work Plan shall be subject to public notice and review and shall be approved by the TCEQ prior to initiation of the detailed evaluation. BRA shall provide a report to the TCEQ documenting its findings from the detailed evaluation within nine months after issuance of this permit. If the report concludes that the recently-ended drought decreases the amount of water available for appropriation under this permit, then the appropriation amounts specified in Paragraph 1.A of this permit shall be correspondingly reduced. In addition, all WMP documents and related accounting plans and spreadsheet programs supporting this permit shall be revised to reflect the results from analyses based on the complete 1940-2015 hydrologic period of record.

Respectfully submitted,

By:_____

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CERTIFICATE OF SERVICE

I hereby certify, by my signature below, that a true and complete copy of The Dow Chemical Company's Motion to Take Official Notice was served on the following parties of record via e-mail or U.S. regular mail as outlined below on this the 20th day of August, 2015.

Fred B. Werkenthin, Jr.

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